

## **Appendix H**

# **Deployment**

### **GENERAL**

H-1. The successful deployment of any unit depends heavily on the unit's ability to maintain the fighting force. This appendix is designed to aid the maintenance section, platoon, company, or battalion in preparing for and supporting a unit deployment by land, sea, or air. In most cases, a unit deployment can be divided into four distinct phases; preparation; movement to the POE; actions at the POE; and actions at the POD. The following references should be on hand in the unit:

- AR 220-10.
- FORSCOM Reg 55-1.
- FM 55-9.
- FORSCOM Reg 55-2.
- FM 55-12.
- TB 55-46-1.
- FM 55-30.
- TM 38-250.
- FM 55-65.
- TM 1-1500-344-23.
- TM 55-1520-400-14.

### **PREPARATION**

H-2. During the preparation phase, the commander and maintenance personnel should take the following steps:


- Review aircraft maintenance/historical records for upcoming services, inspections, component replacement, or deferred maintenance that could impact destination mission.
- Coordinate required support maintenance for disassembly or assembly of aircraft at the POE/POD.
- Identify shortages of all classes of supply, order replenishment, and sustainment needs.
- Coordinate for priority assistance from TMDE support facility for calibration requirements.
- Ensure vehicle load plans have space for mission-essential equipment; use standardized load cards (Figure H-1).
- Prepare checklist to ensure vehicles are properly prepared for shipment (Figure H-2).
- Determine transportation requirements beyond organic capability.

- Determine requirements and sources for blocking, bracing, and tie-down material.
- Ensure vehicle operators are assigned and qualified.
- Overprint DA Form 2408-13-2 (Figure H-3) to guide the disassembly and reassembly of aircraft to be shipped on Air Force aircraft. This standardizes procedures and expedites the work.
- Prepare buildup kits for each aircraft to be shipped. Identify and have on hand those onetime-use parts and supplies required to place the aircraft into operational status after being shipped. Ship the kits with each aircraft.
- Secure padding and prepare stowage plan (Figure H-4) for components removed from the aircraft to facilitate loading.
- Plan the sequencing of special tools, personnel, technical inspectors, and test pilots available to reassemble aircraft after shipment. This minimizes aircraft downtime and clears the ramp or port for follow-on equipment.
- Construct ramps to facilitate rolling helicopters on and off Air Force aircraft (Figure H-5).
- Designate and train load teams. Give each member specific duties and responsibilities (Figure H-6).

## **MOVEMENT TO PORT OF EMBARKATION**

H-3. Movement to the air or sea, APOE/SPOE may involve a combination of modes. For example, aircraft are usually flown and vehicles, depending on the distance to the APOE/SPOE, may be driven in convoys or shipped via rail. Actions taken during the movement include the following:

- Coordinate support at en route airfields for aircraft flying to the POE. This includes services for any night maintenance and AGSE requirements.
- Coordinate and assign maintenance contact teams to perform scheduled and unscheduled maintenance at en route destinations.
- Identify and package any AGSE, TMDE, site, and repair parts required to accompany contact teams.
- Plan convoy operations. Brief drivers on safety. Cover convoy speeds, interval, emergency procedures, phone numbers, and security of equipment.
- Prepare strip maps to POE for all drivers. Station road guides at critical points on the route.
- Plan stops en route to check vehicles, refuel, secure loads, and change drivers.

CMD & CONTROL		VEHICLE LOAD CARD			
UNIT		BUMPER NO HQ 6		DATE COMPLETED	
TYPE M998	LENGTH 180"	WIDTH 86"	HEIGHT 72"	EMPTY WT 5200	CB/CG IS INCHES FROM
					
CARGO LOC NO	CARGO DESCRIPTION AND TYPE PACK (PC WT)			QUANTITY	WEIGHT
1	5 GAL WATER CAN (40 lbs ea)			2	80 lbs
2	5 GAL FUEL CAN (41 lbs ea)			2	82 lbs
3	5.56 mm BALL(A059) (72 lbs ea)			2cs	144 lbs
4	5.56mm 4+1 (A064) (64 lbs ea)			6 cs	384 lbs
5	7.62mm 4+1 (A131) (79 lbs ea)			5 cs	395 lbs
6	FLARE TRIP (LA 95) (62 lbs ea)			1 cs	62 lbs
7	60mm HE (B462) (112 lbs ea)			2 cs	224 lbs
8	66mm LAW (H557) (45 lbs ea)			1 cs	45 lbs
9	CAMO SUPPORT SYSTEM (70 lbs ea)			1	70 lbs
10	CAMO SCREEN SYSTEM (65 lbs ea)			1	65 lbs
11	ANT RC 292 (44lbs ea)			1	44 lbs
12	CANVAS ASSY W/DOORS			1	
13	MRE (16 lbs ea)			14 cs	224 lbs
14	OVM			1	
15	DS2/M11			3	
16	GRENADE, FRAG (G551) (51 lbs ea)			2 cs	102 lbs
SAMPLE					
LOADED VEH WEIGHT		DRIVER(NAME AND GRADE)			

LEGEND:

C/B = CENTER OF BALANCE	LAW = LIGHT ANTITANK WEAPON
CG = CENTER OF GRAVITY	MM = MILLIMETER
GAL = GALLON	OVM= ORGANIZATIONAL VEHICLE MAINTENANCE

Figure H-1. Sample Format for a Vehicle Load Card

UNIT _____	TYPE VEHICLE _____
BUMPER # _____	INSPECTOR _____
<p>S = Satisfactory                      U = Unsatisfactory                      NA = Not Applicable</p>	
<p>A. Vehicle Operation/Level of Maintenance:</p> <p>_____ 1. Engine starts and runs.</p> <p>_____ 2. Tires (including spare) properly inflated.</p> <p>_____ 3. No fuel, oil, water, battery leaks.</p> <p>_____ 4. Proper fuel, oil, water levels.</p> <p>_____ 5. Vehicle clean (including under chassis).</p> <p>_____ 6. Fuel, oil, radiator, and battery caps present, and secure.</p> <p>_____ 7. Rubber battery post covers present and battery tables secure.</p> <p>_____ 8. Lifting shackles and cotter pins present.</p> <p>_____ 9. Lifting eyes and locking nuts (on wheels) present and tight.</p> <p>_____ 10. (M561/M792) Drain plugs present and tight.</p> <p>_____ 11. (K561/M792) Hull empty of oil and water.</p>	
<p>B. Preparation for Air Movement:</p> <p>_____ 1. (M561/792) Windshield, cab canvas/bows, cargo canvas/bows, mirrors removed and stored when applicable.</p> <p>_____ 2. Cargo load not greater than cross-country load capacity.</p> <p>_____ 3. Cargo secured with 1/2" rope and 5,000-lb cargo tie-down straps.</p> <p>_____ 4. NO METAL TO METAL CONTACT between metal fuel cans.</p> <p>_____ 5. Vehicles reduced to 102" in height.</p> <p>_____ 6. Antennas disassembled and stored in vehicle upon notification; otherwise remain up for daily communication checks.</p> <p>_____ 7. Pioneer tools secured by two safety ties of 550 cord.</p> <p>_____ 8. OVE present and secured according to unit SOP.</p> <p>_____ 9. Fuel cans filled to welded seam and serviceable rubber gasket present. Fuel spillage/seepage wiped from fuel cans and breather vent.</p> <p>_____ 10. TOW missile rack pads/straps present, serviceable, and secured.</p> <p>_____ 11. (M561/M792) Truss kit complete and mounted.</p> <p>_____ 12. Vehicle C/B marked with 2" tape on both sides, GWT, FAW, RAW on vehicles.</p> <p>_____ 13. Chalk card filled out and mounted on driver's side of vehicle.</p> <p>_____ 14. (M966) Tie antenna to missile rack with 50 cord.</p> <p>_____ 15. (M966) Camouflage nets and poles secured in left/right seat to prevent interference with missile storage.</p> <p>_____ 16. (M966) Camouflage net tie-downs on rear must be S-rolled and taped.</p> <p>_____ 17. (M1038/998) Accompanying cargo (less ballast) placed to the front of the cargo: bed prepared to be secured with 15' Dacron lashings (DRF # 1 unit provides six each lashings per vehicle). Cargo will be secured for road movement, but it is not required to be completely tied down while vehicles are in the ULACC.</p>	

Figure H-2a. Sample Format for a Vehicle Inspection Checklist

<p>C. Trailers:</p> <ol style="list-style-type: none"> <li><input type="checkbox"/> 1. Trailer clean.</li> <li><input type="checkbox"/> 2. Shoring present M416 = 1" x 3/4", M101 = 2" x 3/4".</li> <li><input type="checkbox"/> 3. Generator and lantern fuel levels according to TM 38-250.</li> <li><input type="checkbox"/> 4. Cargo secured with 1/2" rope, CGU-I/B tie-down devices, and 5,000-lb cargo tie-down straps.</li> <li><input type="checkbox"/> 5. Canvas present and secured.</li> <li><input type="checkbox"/> 6. Load does not rise higher than sides of trailer bed.</li> </ol> <p>NOTE: Units must leave space for ballast to be added at HDRS, if ballast must be placed inside trailer.</p> <p>D. Logbook:</p> <ol style="list-style-type: none"> <li><input type="checkbox"/> 1. DD Form 1970 (Motor Equipment Utilization Record)</li> <li><input type="checkbox"/> 2. DA Form 2404 (Equipment Inspection and Maintenance Worksheet)</li> <li><input type="checkbox"/> 3. SF 91 (Motor Vehicle Accident Report)</li> <li><input type="checkbox"/> 4. DD Form 518 (Accident-Identification Card) (2 copies)</li> <li><input type="checkbox"/> 5. Appropriate -10 manual and draft PMCS manual.</li> <li><input type="checkbox"/> 6. Lubrication Order.</li> </ol> <p>E. Load Packet:</p> <ol style="list-style-type: none"> <li><input type="checkbox"/> 1. Load Card (filled out and matches actual load and is according to division standardized load plans).</li> <li><input type="checkbox"/> 2. Blank load card.</li> <li><input type="checkbox"/> 3. Vehicle inspection checklist (filled out/dated/signed by AMO)</li> <li><input type="checkbox"/> 4. Blank vehicle inspection checklist.</li> <li><input type="checkbox"/> 5. Blank chalk card.</li> <li><input type="checkbox"/> 6. DD Form 1387-2 (Special Handling Data/Certification) (if required).</li> </ol> <p style="text-align: center; margin-top: 20px;">THIS VEHICLE [TRAILER HAS BEEN INSPECTED AND IS READY TO COMPLETE AN ARMY/AIR FORCE INSPECTION AT GREEN RAMP.</p> <div style="text-align: right; margin-top: 20px;"> <div style="border-bottom: 1px solid black; width: 40%; margin-bottom: 5px;"></div> <div>(Signature of Inspector/Unit)</div> <div style="border-bottom: 1px solid black; width: 40%; margin-bottom: 5px;"></div> <div>(Date)</div> </div> <p>LEGEND:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">AMO = aircraft maintenance officer</td> <td style="width: 50%;">OVE = organizational vehicle equipment</td> </tr> <tr> <td>C/B = center of balance</td> <td>RAW = rear axle weight</td> </tr> <tr> <td>DRF = division ready force</td> <td>TOW = tube-launched, optically tracked,</td> </tr> <tr> <td>FAW = forward axle weight</td> <td style="text-align: center;">wire-guided</td> </tr> <tr> <td>GWF = gross weight</td> <td></td> </tr> </table>		AMO = aircraft maintenance officer	OVE = organizational vehicle equipment	C/B = center of balance	RAW = rear axle weight	DRF = division ready force	TOW = tube-launched, optically tracked,	FAW = forward axle weight	wire-guided	GWF = gross weight	
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**Figure H-2b. Sample Format for a Vehicle Inspection Checklist (Continuation)**

DATE _____		Page <u>1</u>			
1. STATUS	2. SERIAL NUMBER	3. SYSTEM CODE		4. TIME	
	5. FAULT DATE	6. FAULT NUMBER			
7. FAULT Acft disassembled for shipment.					
8. STA	9. RELATED MAINTENANCE ACTIONS	10. ACTION	11. PID	12. CAT	13. MMH
	Pitot tube disconnected from mount.				
	UHF antenna removed.				
	FM antenna removed.				
	Stab bar assy s/n _____ removed.				
	M/R hub s/n _____ removed.				
	R/M/R blade s/n _____ removed.				
	W/M/R blade s/n _____ removed.				
	M/r mast s/n _____ removed.				
	Swashplate s/n _____ removed.				
	L/cyclic servo disconnected at bellcrank in hellhole.				
	R/cyclic servo disconnected at bellcrank in hellhole.				
	R/H gun mount removed.				
	L/H gun mound removed.				

**DA FORM 2408-13-2, OCT 97**  
DA FORM 2408-13-2, NOV 91, MAY BE USED

**RELATED MAINTENANCE ACTIONS RECORD**  
For use of this form, see DA PAM 738-751; the proponent agency is DCSLOG  
USAPA V1.00

Figure H-3a. Sample DA Form 2408-13-2 (front)

8. STA	9. RELATED MAINTENANCE ACTIONS	10. ACTION	11. PID	12. CAT	13. MMH
	R/H sync elevator s/n _____ removed.				
	L/H sync elevator s/n _____ removed.				
	T/R blade s/n _____ removed.				
	W/M/R P/P tube removed.				
	R/M/R P/P tube removed.				
	Coll P/P tube disconnected at collective levers.				
	W/dampener P/P tube disconnected at dampener arm.				
	Insp due of internal load for compliance with load plan.				
	Insp due for placement of load plan on copilot window and shipment packet in copilot's seat.				

REVERSE OF DA FORM 2408-13-2, OCT 97

USAPA V1.00

Figure H-3b. Sample DA Form 2408-13-2 (back)

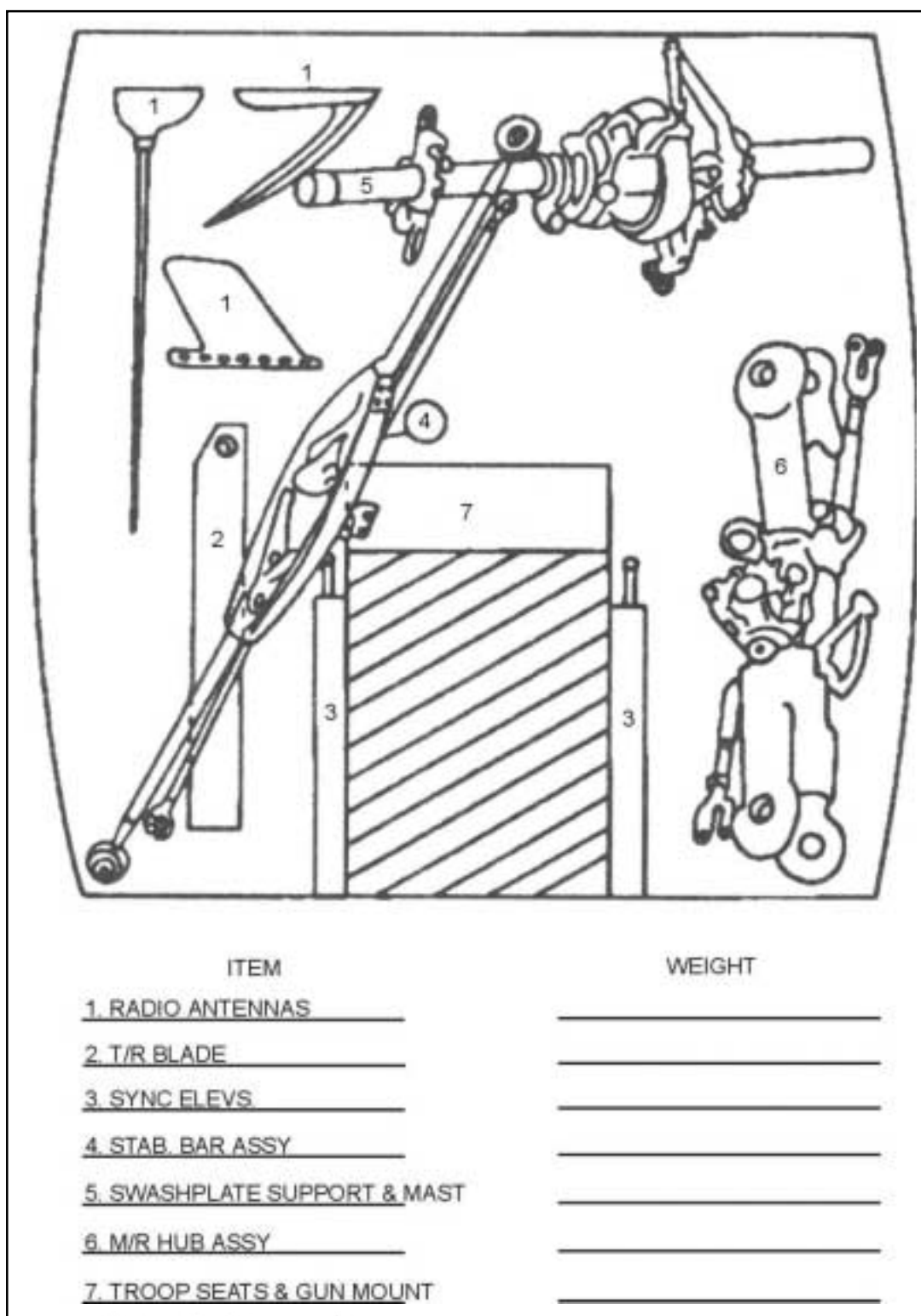


Figure H-4. Sample Format for an Aircraft Stowage Card



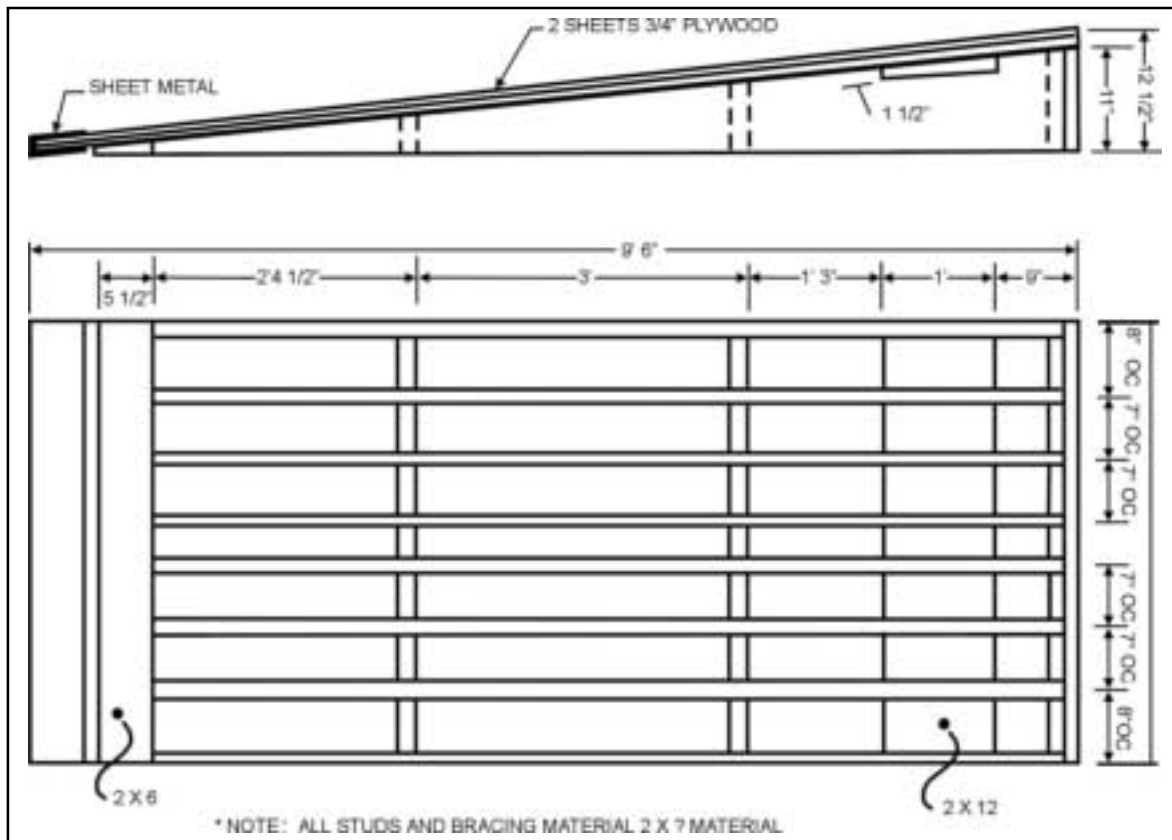


Figure H-5. Sample Format for a Loading Ramp Diagram

NO. 1 Man (Driver)

1. Responsible for preparing vehicle and towed load.
2. Responsible for removing all bows, tarps, and side boards.
3. Responsible for lowering windshields and folding inside mirror.
4. Responsible for ensuring motor is warmed up before loading.
5. Responsible for ensuring motor and vehicle are in 4--wheel drive.
6. Takes all guiding signals from the team leader only.
7. Licensed to drive all TOE equipment.

NO. 2 Man (Team Leader)

1. Responsible for loading, balancing, and lashing of cargo.
2. Gives all commands and arm and hand signals.
3. Locates himself to direct the movement of all equipment being loaded.
4. Responsible for the safety of his team.

NO. 3 & 4 Men (Safety Men)

1. Follow the vehicle up or precede the vehicle down the ramp with their wood chocks.
2. Assist in spotting and lashing the load.
3. May act as port or starboard guides.
4. Do not use wheel chocks on low-incline, ramp-type vehicles.
5. Do not use wheel chocks when winching vehicles aboard aircraft.

NO. 5 & 6 Men (Utility Men)

1. Prepare the aircraft for the load.
2. Raise or remove the troop seats.
3. Clear cargo compartment of unnecessary items.
4. Prepare the tie-down devices and tie-down fittings.
5. Assist the load master in all tasks as necessary.
6. Assist in spotting and lashing the load.

**Figure H-6. Sample Format for Load Team Duties**

- Follow convoys with a maintenance vehicle that has mechanics, tools, parts, and lubricants to make emergency repairs en route.
- Send an aviation maintenance representative with the advance party to guide vehicles to the staging area at the POE.

**ACTIONS AT PORT OF EMBARKATION**

H-4. Actions at the POE should be coordinated in advance with the departure airfield control group or seaport transportation officer. These actions include the following:

- Determine a staging area for vehicles and equipment.
- Arrange for an aircraft disassembly area.
- Distribute flyaway kits, component stowage plans, and overprinted DA Form 2408-13-2 for each aircraft to be shipped by air.
- Use organic equipment or obtain support for lifting rotors, masts, and so forth.
- Prepare vehicles for shipment. Use low profile. Leave keys in ignition or secured to steering column. Gas tanks should be secured according to the transporting agencies' instructions.

## **ACTIONS AT PORT OF DEBARKATION**

H-5. Actions at the POD usually include the following:

- Send advance party on the first sortie. Send unit representative to coordinate with the receiving aerial or seaport.
- Unload equipment and establish staging area.
- Establish maintenance operation to reassemble aircraft and to control equipment and personnel.
- Coordinate for a run-up and test flight area.
- Coordinate refueling of aircraft, vehicles, and equipment.
- Request assistance from local transportation officer to arrange for onward movement of personnel and equipment beyond the unit's organic capability.
- Prepare to clear the ramp or seaport and move to the employment area. Take similar steps when moving to the POE.
- Inspect aircraft shipped on sea vessels for salt water corrosion and wash with fresh water as soon as possible.

## **SELF-DEPLOYMENT**

H-6. Self-deployment of aviation assets requires extended maintenance efforts in both preparation and execution. To better support the self-deployment, maintenance operations should consider and plan for the following:

- Not all of the unit's aircraft may be deployed. The aircraft that remain may continue to perform required missions at home station and will require normal maintenance. In this case, support may be required to meet both the deploying and home station unit's missions.
- Some component TBO hours and aircraft flight hours may be reduced as a result of installing extended range fuel systems.
- Maintenance personnel may be required to perform primary duties as mechanics, component repairers, supply technicians, and inspectors as well as additional duties as door gunners. Maintenance test pilots may be required to perform operational missions and test pilot night duties.
- Support services may not be established in the theater of operations for several weeks. Sufficient amounts of required classes of supplies, adequate TMDE, AGSE, special tools, and repair parts may not be immediately available.
- Aircraft may be transferred to and from the deploying unit with different transfer criteria than that established in TM 1-1500-328-23.
- Special navigation kits and aircraft modifications may be required prior to the aircraft self-deploying. Contract, depot, or other support maintenance may be required to accomplish these MWOs.